

Title (en)  
METHOD FOR PRODUCING POLYMER, POLYMER, COMPOSITION FOR FORMING INSULATING FILM, METHOD FOR PRODUCING INSULATING FILM, AND INSULATING FILM

Title (de)  
VERFAHREN ZUR HERSTELLUNG VON POLYMER, POLYMER, ZUSAMMENSETZUNG ZUR BILDUNG EINES ISOLIERFILMS, VERFAHREN ZUR HERSTELLUNG VON ISOLIERFILM UND ISOLIERFILM

Title (fr)  
PROCEDE DE PRODUCTION D'UN POLYMER, POLYMER, COMPOSITION DESTINEE A LA FORMATION D'UN FILM ISOLANT, PROCEDE DE PRODUCTION D'UN FILM ISOLANT, ET FILM ISOLANT

Publication  
**EP 1705207 A4 20090624 (EN)**

Application  
**EP 05703612 A 20050114**

Priority  
• JP 2005000373 W 20050114  
• JP 2004009205 A 20040116

Abstract (en)  
[origin: EP1705206A1] There are provided a method for producing a polymer, a polymer, an insulating-film-forming composition, a method for producing an insulating film, and an insulating film capable of forming a film which is suitably used as an interlayer dielectric for semiconductor devices or the like and exhibits a low relative dielectric constant, excellent mechanical strength and adhesion, and uniform quality. A method for producing a polymer of the invention comprises hydrolyzing and condensing (B) a hydrolyzable-group-containing silane monomer in the presence of (A) a polycarbosilane, the polycarbosilane (A) being a polymer (I) obtained by reacting (a) a compound shown by the following general formula (1) and (b) at least one compound selected from the group consisting of a compound shown by the following general formula (2) and a compound shown by the following general formula (3) in an organic solvent in the presence of at least one of an alkali metal and an alkaline earth metal, #####R 1 k CX 4-k #####(1) #####R 2 k SiY 4-k #####(2) #####R 3 m Y 3-m SiCR 4 n X 3-n #####(3) wherein R 1 to R 4 individually represent a monovalent organic group or a hydrogen atom, X represents a halogen atom, Y represents a halogen atom or an alkoxy group, k represents an integer from 0 to 3, and m and n individually represent integers from 0 to 2.

IPC 8 full level  
**C08G 77/42** (2006.01); **C08G 77/48** (2006.01); **C08L 83/14** (2006.01); **C09D 183/14** (2006.01); **H01B 3/30** (2006.01); **H01B 3/46** (2006.01); **H01L 21/312** (2006.01)

CPC (source: EP KR US)  
**C08G 77/48** (2013.01 - KR); **C08J 5/22** (2013.01 - KR); **C08L 83/14** (2013.01 - KR); **C09D 183/14** (2013.01 - EP US); **H01B 3/30** (2013.01 - EP US); **H01B 3/46** (2013.01 - KR); **H01L 21/02126** (2013.01 - EP US); **H01L 21/02216** (2013.01 - EP US); **H01L 21/02282** (2013.01 - EP US); **H01L 21/3121** (2016.02 - US); **H01L 21/3122** (2016.02 - US)

Citation (search report)  
• [A] US 5202405 A 19930413 - MICHALCZYK MICHAEL J [US]  
• See references of WO 2005068539A1

Cited by  
CN112094414A

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**EP 1705206 A1 20060927**; **EP 1705206 A4 20090624**; EP 1705207 A1 20060927; EP 1705207 A4 20090624; EP 1705207 B1 20121024; JP 5013045 B2 20120829; JP 5110243 B2 20121226; JP WO2005068538 A1 20071227; JP WO2005068539 A1 20071227; KR 101129875 B1 20120328; KR 20060123548 A 20061201; KR 20060123549 A 20061201; TW 200536621 A 20051116; TW 200538490 A 20051201; TW I265172 B 20061101; TW I292349 B 20080111; US 2007015892 A1 20070118; US 2007021580 A1 20070125; US 7528207 B2 20090505; WO 2005068538 A1 20050728; WO 2005068539 A1 20050728

DOCDB simple family (application)  
**EP 05703611 A 20050114**; EP 05703612 A 20050114; JP 2005000372 W 20050114; JP 2005000373 W 20050114; JP 2005517075 A 20050114; JP 2005517076 A 20050114; KR 20067016327 A 20050114; KR 20067016328 A 20060814; TW 94101151 A 20050114; TW 94101152 A 20050114; US 48460406 A 20060712; US 48550806 A 20060713